

13. A method for reconstituting a non-human mammalian embryo *in vitro*, comprising treating the diploid nucleus of a somatic donor cell prior to its transfer into a recipient cytoplasm, said treatment comprising:

- a) controlled proteolysis of non-histone proteins, and
- b) induction of an isomorphic swelling of said nucleus.

14. The method of claim 13, wherein the controlled proteolysis is produced by the action of a serine protease.

15. The method of claim 14, wherein the serine protease is trypsin or chymotrypsin.

16. The method of claim 13, characterized in that the swelling of the nucleus is induced by treatment with a polyanion chosen from heparin, dextran sulfate and polyaspartic acids with a molecular weight of greater than 20 000.

17. The method of claim 13, wherein the nucleus treated is contained in the donor cell, and the treatment comprises permeabilization of the cytoplasmic membrane of said cell.

18. The method of claim 17, wherein the permeabilization of the cytoplasmic membrane is carried out with at least one permeabilizing agent chosen from lysolecithin, streptolysin, saponin and digitonin.
19. The method of claim 13, wherein the nucleus is transferred into the recipient cytoplasm by microinjection.
20. The method of claim 17, wherein the nucleus is transferred into the recipient cytoplasm by fusion of the donor cell and of the recipient cytoplasm.
21. The method of claim 20, wherein the fusion is carried out by electric shock.
22. The method of claim 13, wherein the recipient cytoplasm is in the interphase state.
23. The method of claim 13, wherein said mammal is an ungulate.
24. The method of claim 23, wherein the ungulate is selected from the group consisting of Bovini, the ovine race, members of the goat family and pigs.